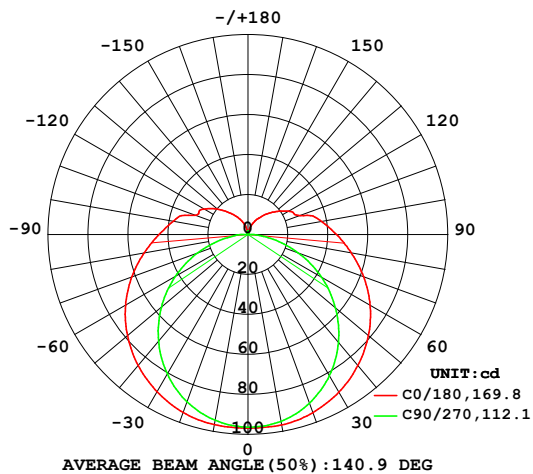


LUMINAIRE PHOTOMETRIC TEST REPORT

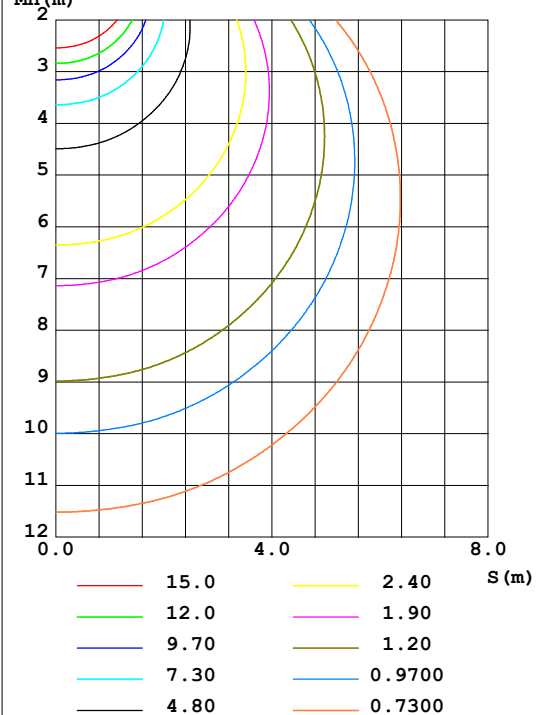
Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 43.11 lm/W			
MODEL	NNS1224	I _{max} (cd)	96.82	S/MH (C0/180)	1.41
NOMINAL POWER (W)	9.6	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	24	TOTAL FLUX (lm)	438.47	h UP,DN (C0-180)	8.7,41.1
NOMINAL FLUX (lm)	438.472	CIE CLASS	SEMI-D.	h UP,DN (C180-360)	9.1,41.1
LAMPS INSIDE	1	h up (%)	17.8	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	24	h down (%)	82.2	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: COLORS
 Test Date: 2019-07-01

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 10.750m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

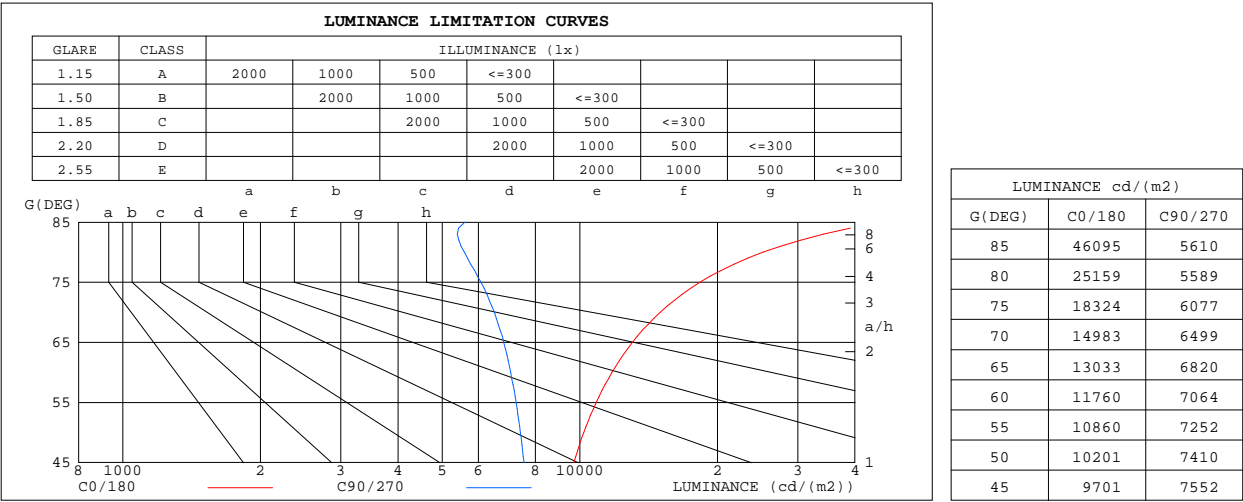
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	96.75	94.91	96.56	94.38					0~ 10	9.176	9.176	2.09,2.09
20	94.85	89.85	94.78	89.12					10~ 20	26.63	35.81	8.17,8.17
30	91.03	81.55	90.88	80.63					20~ 30	41.23	77.04	17.6,17.6
40	85.54	70.49	85.53	69.63					30~ 40	51.45	128.5	29.3,29.3
50	78.68	57.16	78.74	56.57					40~ 50	56.36	184.9	42.2,42.2
60	70.56	42.39	70.76	42.04					50~ 60	55.71	240.6	54.9,54.9
70	61.49	26.67	61.81	26.54					60~ 70	49.87	290.4	66.2,66.2
80	52.43	11.65	52.65	11.83					70~ 80	40.16	330.6	75.4,75.4
90	44.34	2.226	44.55	3.196					80~ 90	29.89	360.5	82.2,82.2
100	37.56	0.3478	38.17	0.3089					90~100	22.92	383.4	87.4,87.4
110	27.89	0.5474	28.17	0.4892					100~110	18.31	401.7	91.6,91.6
120	23.46	0.7533	25.52	0.7147					110~120	13.31	415.0	94.7,94.7
130	17.79	0.9148	19.75	0.8304					120~130	10.09	425.1	97,97
140	13.05	1.069	14.12	1.004					130~140	6.632	431.8	98.5,98.5
150	8.573	1.210	9.682	1.179					140~150	3.895	435.7	99.4,99.4
160	4.841	1.462	5.719	1.416					150~160	1.987	437.6	99.8,99.8
170	1.526	1.700	1.504	1.622					160~170	0.6809	438.3	100,100
180	1.474	1.854	1.506	1.841					170~180	0.1523	438.5	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



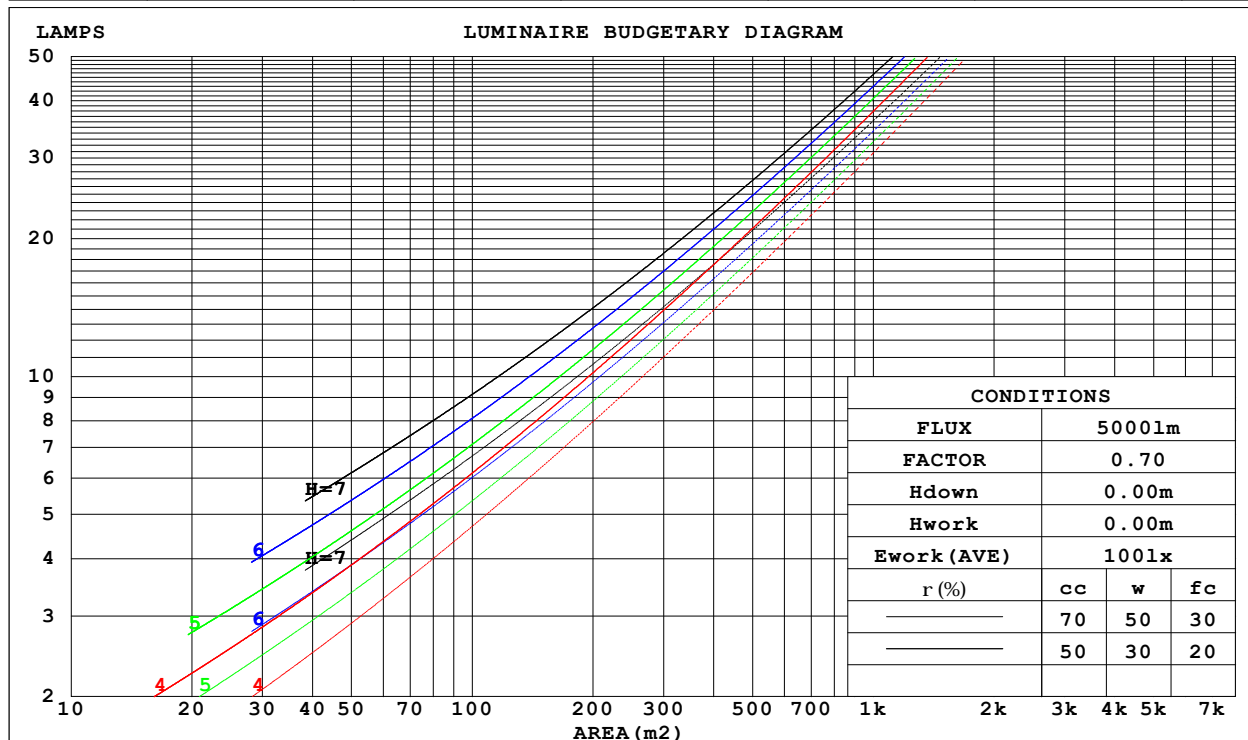
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.15	1.15	1.15	1.10	1.10	1.10	1.01	1.01	1.01	.93	.93	.93	.86	.86	.86	.82
1.0	.96	.91	.86	.92	.87	.83	.84	.81	.77	.77	.74	.72	.71	.69	.66	.63
2.0	.82	.75	.68	.79	.72	.66	.72	.67	.62	.66	.62	.58	.61	.57	.54	.50
3.0	.71	.62	.55	.68	.60	.54	.63	.56	.50	.58	.52	.47	.53	.48	.44	.41
4.0	.63	.53	.46	.60	.52	.45	.55	.48	.42	.51	.45	.40	.47	.42	.37	.35
5.0	.56	.46	.39	.53	.45	.38	.49	.42	.36	.45	.39	.34	.42	.36	.32	.29
6.0	.50	.41	.34	.48	.39	.33	.44	.37	.31	.41	.35	.30	.38	.32	.28	.25
7.0	.45	.36	.30	.43	.35	.29	.40	.33	.27	.37	.31	.26	.34	.29	.25	.22
8.0	.41	.32	.26	.39	.31	.26	.37	.29	.24	.34	.28	.23	.31	.26	.22	.20
9.0	.37	.29	.23	.36	.28	.23	.34	.27	.22	.31	.25	.21	.29	.24	.20	.18
10.0	.34	.26	.21	.33	.26	.21	.31	.24	.20	.29	.23	.19	.27	.22	.18	.16



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

rcc	80%			70%			50%			30%			10%			0														
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0														
rfc	20%			20%			20%			20%			20%			0														
RCR	RCR:Room Cavity Ratio															Wall Exitance Coefficients (WEC)														
0.0																														
1.0	.377	.214	.068	.364	.208	.066	.341	.195	.062	.319	.184	.059	.299	.173	.056															
2.0	.329	.180	.055	.317	.175	.054	.296	.165	.051	.276	.155	.048	.258	.146	.046															
3.0	.293	.156	.047	.283	.151	.046	.264	.143	.043	.246	.135	.041	.229	.127	.039															
4.0	.264	.137	.040	.255	.134	.039	.238	.126	.038	.221	.119	.036	.206	.112	.034															
5.0	.241	.123	.036	.232	.119	.035	.216	.113	.033	.202	.106	.032	.188	.100	.030															
6.0	.221	.111	.032	.213	.108	.031	.199	.102	.030	.185	.096	.028	.173	.091	.027															
7.0	.204	.101	.029	.197	.098	.028	.184	.093	.027	.171	.088	.026	.160	.083	.024															
8.0	.189	.092	.026	.183	.090	.025	.171	.085	.024	.159	.081	.023	.148	.076	.022															
9.0	.176	.085	.024	.171	.083	.023	.159	.079	.022	.149	.075	.021	.139	.071	.020															
10.0	.165	.079	.022	.160	.077	.022	.149	.073	.021	.140	.069	.020	.130	.066	.019															

rcc	80%			70%			50%			30%			10%			0	
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
rfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)										
0.0	.326	.326	.326	.279	.279	.279	.190	.190	.190	.109	.109	.109	.035	.035	.035		
1.0	.322	.292	.266	.275	.251	.229	.188	.173	.158	.108	.100	.092	.035	.032	.030		
2.0	.315	.269	.231	.270	.232	.200	.185	.160	.139	.107	.093	.082	.034	.030	.027		
3.0	.307	.253	.209	.263	.218	.181	.181	.151	.127	.104	.088	.075	.034	.029	.025		
4.0	.300	.240	.195	.257	.208	.169	.177	.145	.119	.102	.085	.071	.033	.028	.023		
5.0	.292	.230	.185	.251	.199	.161	.173	.139	.114	.100	.082	.067	.032	.027	.022		
6.0	.285	.222	.178	.245	.193	.155	.169	.135	.110	.098	.079	.065	.032	.026	.022		
7.0	.277	.216	.173	.239	.187	.150	.165	.131	.107	.096	.077	.063	.031	.025	.021		
8.0	.271	.210	.169	.233	.182	.147	.161	.128	.104	.094	.076	.062	.030	.025	.021		
9.0	.265	.205	.166	.228	.178	.144	.158	.125	.103	.092	.074	.061	.030	.024	.020		
10.0	.259	.201	.163	.223	.175	.142	.155	.123	.101	.090	.073	.060	.029	.024	.020		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm										
NAME: NNS1224					TYPE:			WEIGHT:		
SPEC.:NNS1224-8LW24CSS050CC0100					DIM.: 1000*12*24mm			SERIAL No.:		
MFR.: Colors					SUR.:1000*12			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	23.2	24.6	23.7	25.1	25.6	21.4	22.8	21.9	23.3	23.8
3H	25.8	27.1	26.4	27.6	28.2	23.0	24.2	23.5	24.8	25.4
4H	27.3	28.5	27.9	29.1	29.7	23.6	24.8	24.2	25.4	26.0
6H	28.9	30.1	29.5	30.6	31.3	24.1	25.2	24.7	25.8	26.4
8H	29.9	30.9	30.4	31.5	32.2	24.3	25.4	24.8	25.9	26.6
12H	30.9	32.0	31.5	32.6	33.2	24.4	25.4	25.0	26.0	26.7
4H 2H	23.7	24.9	24.3	25.5	26.1	22.4	23.6	23.0	24.2	24.8
3H	26.6	27.6	27.2	28.2	28.9	24.2	25.3	24.8	25.9	26.6
4H	28.2	29.1	28.8	29.8	30.5	25.1	26.0	25.7	26.7	27.4
6H	30.0	30.9	30.7	31.5	32.3	25.7	26.6	26.4	27.3	28.0
8H	31.1	31.9	31.7	32.5	33.3	26.0	26.8	26.7	27.5	28.2
12H	32.3	33.0	32.9	33.7	34.5	26.2	27.0	26.9	27.6	28.4
8H 4H	28.5	29.3	29.1	29.9	30.7	25.9	26.7	26.6	27.4	28.1
6H	30.5	31.2	31.2	31.9	32.7	26.9	27.6	27.6	28.3	29.1
8H	31.8	32.4	32.5	33.1	33.9	27.4	28.0	28.1	28.7	29.5
12H	33.3	33.8	34.0	34.5	35.3	27.8	28.3	28.5	29.0	29.9
12H 4H	28.5	29.2	29.1	29.9	30.7	26.2	26.9	26.9	27.6	28.4
6H	30.6	31.2	31.3	31.9	32.8	27.4	28.0	28.1	28.7	29.5
8H	32.0	32.5	32.7	33.2	34.1	28.0	28.5	28.7	29.2	30.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.5				

CIE Pub.117, 438.5 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.9)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

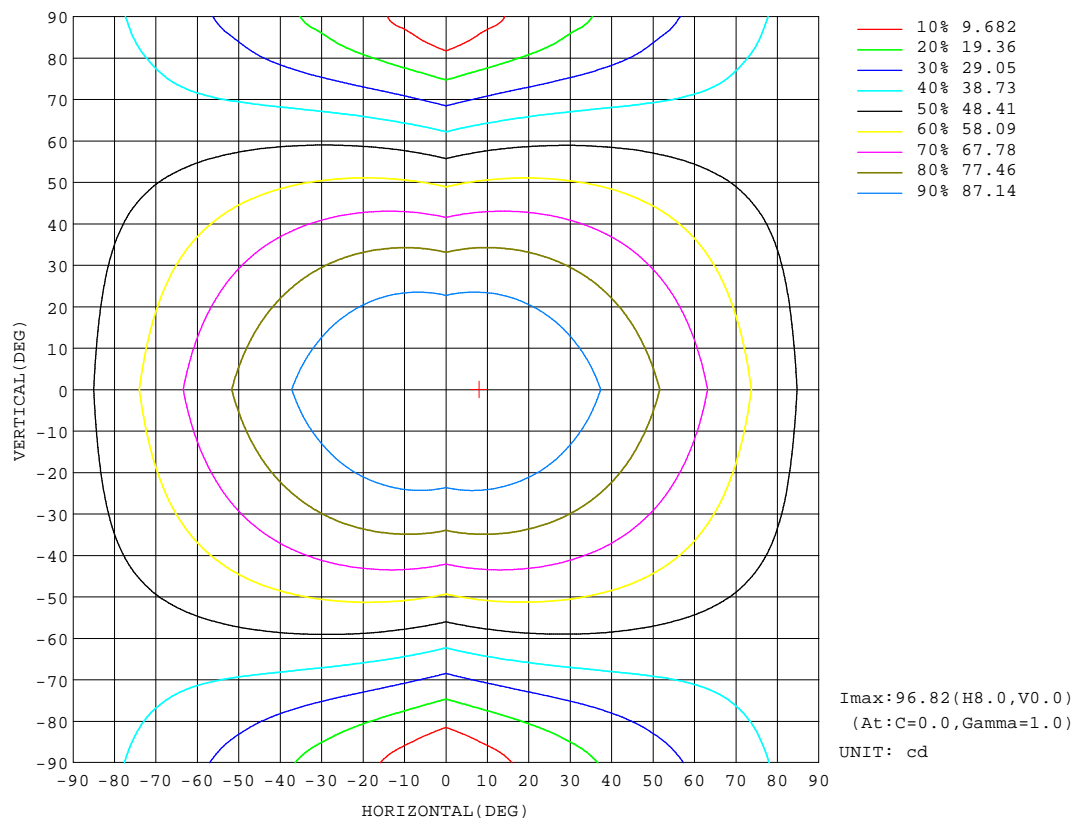
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	47	35	28	45	34	28	21
0.80	57	44	36	56	44	36	53	42	35	27
1.00	65	52	44	63	51	43	60	52	42	34
1.25	72	60	51	70	58	50	65	56	49	39
1.50	77	65	57	75	64	56	70	60	54	43
2.00	84	74	65	81	72	64	76	68	61	50
2.50	89	79	71	86	77	69	79	72	66	53
3.00	93	84	76	89	81	74	82	76	70	57
4.00	97	90	83	93	87	81	86	81	76	62
5.00	100	94	88	96	90	85	89	84	80	65
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-07-01

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.750m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.: NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



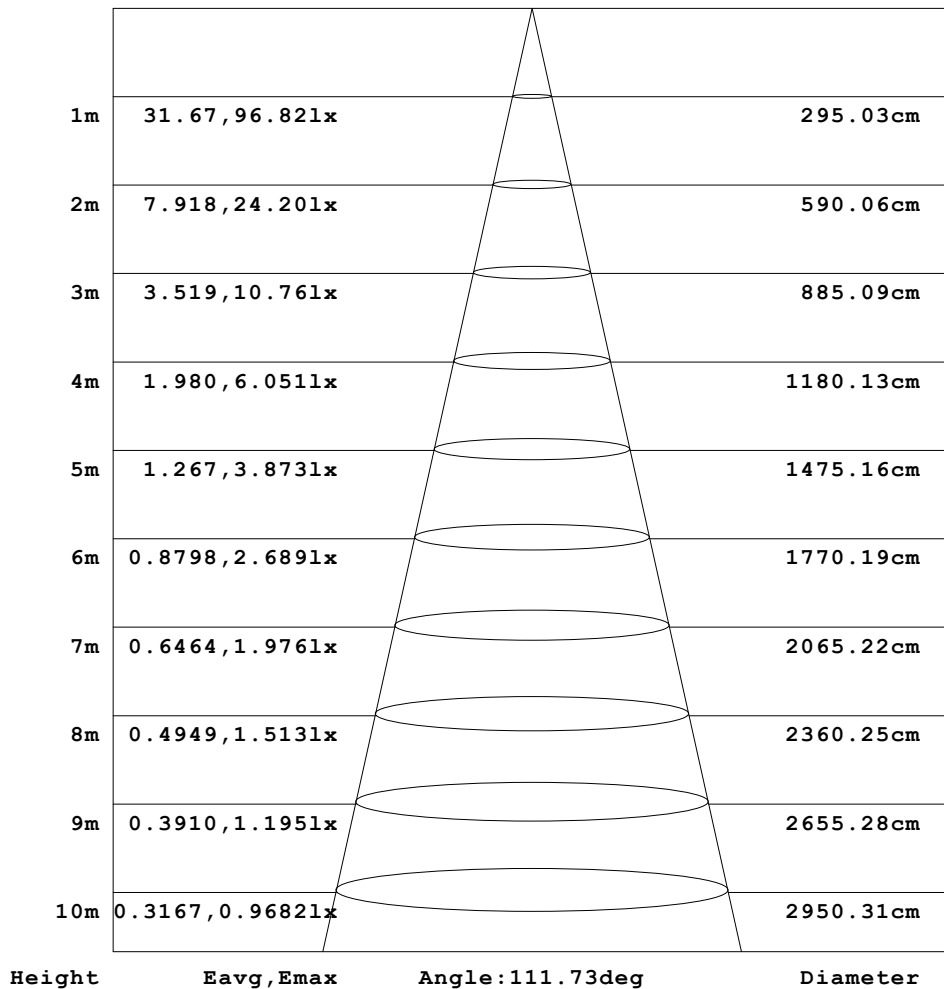
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Flux out:218.7 lm



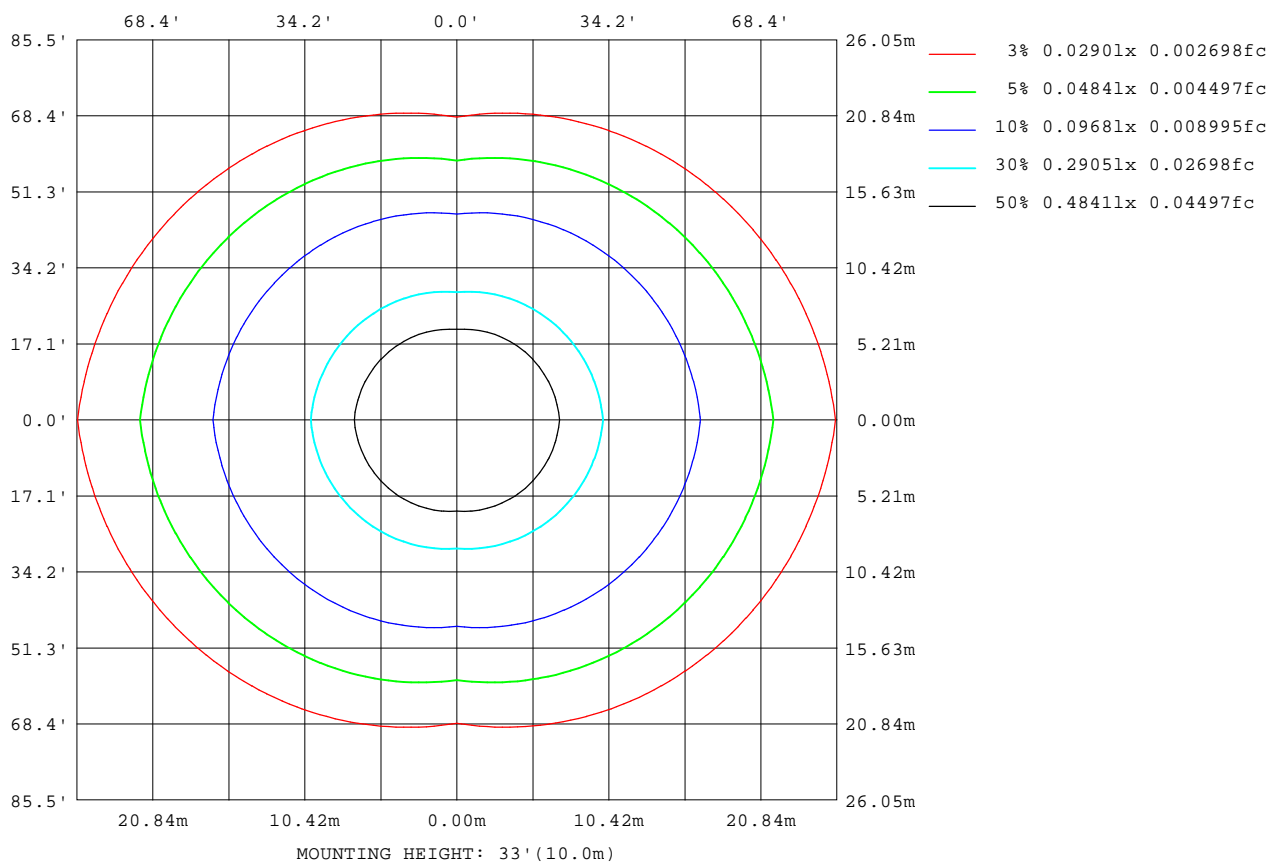
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

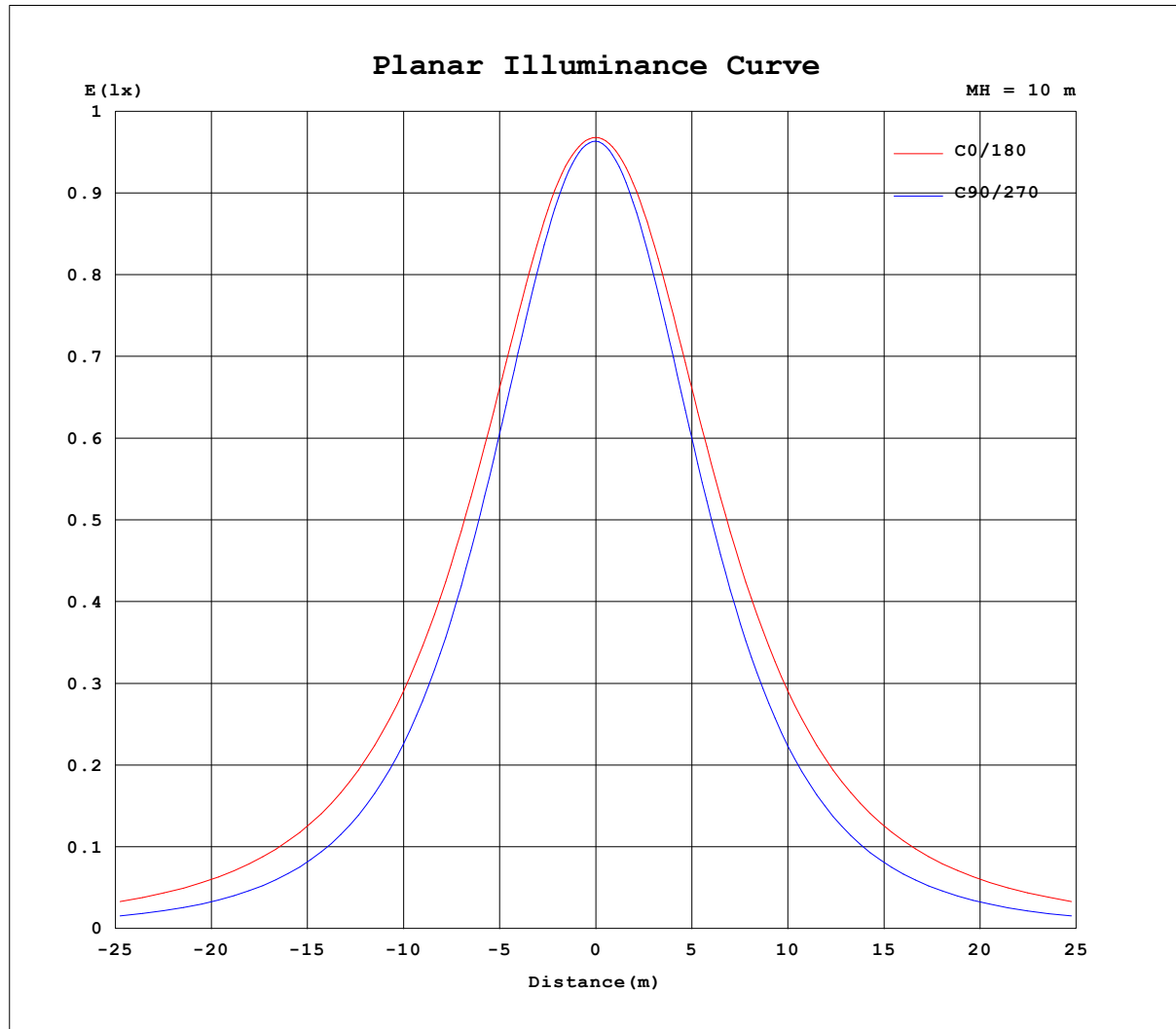
AvgL	cd/m2
L_0~180 (65) av	13059
L_0~180 (75) av	18366
L_0~180 (85) av	46201
L_90~270 (65) av	6791
L_90~270 (75) av	6072
L_90~270 (85) av	5897
L_45 (65) av	9144
L_45 (75) av	10685
L_45 (85) av	21018

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-07-01

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.750m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.4240A P:10.17W PF:1.000 Freq:0Hz Lamp Flux:438.472x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8LW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Table--1

UNIT: cd

C (DEG) g (DEG)	0	90	180	270															
0	96.8	96.3	96.8	96.3															
5	96.8	96.1	96.8	95.8															
10	96.7	94.9	96.6	94.4															
15	96.1	92.8	95.9	92.1															
20	94.8	89.8	94.8	89.1															
25	93.1	86.1	93.1	85.2															
30	91.0	81.6	90.9	80.6															
35	88.5	76.4	88.4	75.4															
40	85.5	70.5	85.5	69.6															
45	82.3	64.1	82.3	63.3															
50	78.7	57.2	78.7	56.6															
55	74.7	49.9	74.9	49.5															
60	70.6	42.4	70.8	42.0															
65	66.1	34.6	66.4	34.3															
70	61.5	26.7	61.8	26.5															
75	56.9	18.9	57.2	18.8															
80	52.4	11.6	52.6	11.8															
85	48.2	5.87	48.4	6.47															
90	44.3	2.23	44.5	3.20															
95	40.8	0.36	41.2	0.28															
100	37.6	0.35	38.2	0.31															
105	34.5	0.44	35.5	0.41															
110	27.9	0.55	28.2	0.49															
115	25.3	0.66	27.2	0.59															
120	23.5	0.75	25.5	0.71															
125	20.5	0.85	22.7	0.79															
130	17.8	0.91	19.8	0.83															
135	15.3	1.00	16.8	0.91															
140	13.0	1.07	14.1	1.00															
145	10.3	1.13	11.8	1.09															
150	8.57	1.21	9.68	1.18															
155	6.62	1.32	7.74	1.33															
160	4.84	1.46	5.72	1.42															
165	1.99	1.58	3.74	1.55															
170	1.53	1.70	1.50	1.62															
175	1.45	1.80	1.40	1.73															
180	1.47	1.85	1.51	1.84															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
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Remarks: